

**JOHN M. SMITH, P.E.  
PRESIDENT  
SMITH ENVIRONMENTAL ENGINEERING, INC.**

**EDUCATION:**

B.S. Civil Engineering, University of Kentucky, 1964  
M.S. Sanitary Engineering, University of Cincinnati, 1971

**PROFESSIONAL REGISTRATION:**

P.E. Civil Engineering - Kentucky (PE8205), Ohio (PE47482), Indiana (PE021215),  
Louisiana (PE21840), Florida (PE47329)  
P.E. Sanitary Engineering - Kentucky, Ohio, Indiana, Louisiana, Florida

**ORGANIZATIONS:**

Water Environmental Federation  
American Society of Civil Engineers  
Ohio Association of Consulting Engineers  
Cincinnati Association of Consulting Engineers  
Clermont County Chamber of Commerce  
Life Member of Who's Who

**EXPERIENCE:**

10/82 to Present

President and CEO of J.M. Smith & Associates, PSC, Consulting Engineers  
Chief, Systems Engineering and Evaluation  
Branch, USEPA Wastewater Research  
Division, Office of Research and  
Development, Cincinnati, Ohio

7/82 to 10/82

Chief, Urban Systems Management Section,  
Systems Engineering and Evaluation  
Branch, USEPA Wastewater Research  
Division, Office of Research and  
Development, Cincinnati, Ohio

9/73 to 10/82

Acting Chief, Municipal Treatment  
Research Program, USEPA Office of  
Research and Development, Cincinnati,  
Ohio

1/72 to 9/73

Sanitary Engineer, USEPA National  
Environmental Research Center, Cincinnati,  
Ohio

6/68 to 1/72

Civil Engineer, U.S. Army Corps of  
Engineers, Cincinnati, Ohio

12/67 to 6/68

Project Engineer, Barbeau Construction  
Management, Consulting Engineers,  
Batavia, Ohio

5/64 to 9/67

**AWARDS:**

EPA Bronze Medal for Commendable Service, 1973  
EPA Quality Increase Award, 1969, 1976, 1977  
Outstanding Performance Award EPA, 1981, 1982  
NSPE Engineer of the Year in EPA, 1981

John M. Smith has over 31 years of experience in civil and sanitary engineering, including a broad background in process design of conventional and innovative wastewater treatment technologies. This experience is derived from an initial four years of sewer and wastewater treatment plant design and construction experience with the engineering firm of Barbeau Construction Management in Batavia, Ohio, followed by over 16 years of research and engineering experience with the USEPA Office of Research and Development, and over 13 years as president and CEO of J.M. Smith and Associates.

During his tenure at EPA, Mr. Smith directed the Agency's Pilot Plant Research Program that included an engineering and technical staff of approximately 60 persons who operated multi-line pilot plants in Washington, D.C., Pomona, California and Lebanon, Ohio. Basic and applied research was conducted under the direction of Mr. Smith on over 50 advanced waste treatment processes over a period of six years.

Mr. Smith later directed the three million dollar per year engineering and evaluation activities of EPA's Wastewater Research Program, including the development and management of plant operations and design program, a small community research program, an innovative and alternative technology research program, and an engineering and technical assistance program.

Highlights of Mr. Smith's EPA experience at USEPA's Office of Research and Development include the analysis of research data from over 140 wastewater treatment processes, the development of six new treatment processes and the development and dissemination of rational design information for the full scale implementation of these technologies.

Mr. Smith is recognized internationally as a process design expert in Wastewater and Sludge Treatment Technology, and in Sewer System Evaluation and Odor and Corrosion Control.

Mr. Smith was a lecturer in over 120 USEPA sponsored United States and International Design Seminars and was the co-author of seven USEPA Design Manuals covering the technical areas of nitrogen control, upgrading wastewater treatment plants, phosphorus removal, sulfide control, infiltration and inflow reduction, carbon adsorption, and small community wastewater treatment systems.

Mr. Smith holds patents on "Fixed Film Denitrification," "Expanded Bed Biological Treatment," and "A Rotating Disk Mechanical Evaporation Device."

Mr. Smith was selected to direct the USEPA National Innovative and Alternative (I/A) Technology Program in Cincinnati. This group provided extensive technical support and direction for the Agency's I/A program for over five years. Activities included development of

agency regulations, policy guidance, and project selection criteria; preparation of an I/A Technology Assessment Manual; formation and management of a national I/A clearinghouse; and management of a I/A Technical Support Group that had responsibility for review of I/A facility plans for all ten EPA Regional Offices.

Mr. Smith reviewed over 300 separate facility plans and made recommendations to USEPA Regional Administrators regarding their acceptance of I/A technology under the applicable criteria previously established.

Mr. Smith was selected as USEPA Engineer of the Year out of 10,000 engineers for these efforts.

Mr. Smith has testified before the United States Congress "Investigation and Oversight Committee" on the impact of Innovative Technology on improving water quality and reducing the national cost of municipal wastewater treatment in the United States.

Mr. Smith also acted as senior advisor to other segments of USEPA, national organizations and congressional committees. He has presented expert testimony on design criteria and deficiencies that settled USEPA's litigation issues for three major AWT facilities.

Because of Mr. Smith's strong philosophy on the need to use research-based rational design criteria in municipal treatment works, he initiated and managed EPA's first program on "Identification and Correction of Design Deficiencies" and initiated the EPA/WPCF - sponsored Design Information Series Reports.

Mr. Smith's areas of technical expertise include process and detailed design of municipal and industrial waste treatment technologies including mechanical plant biological processes, land-based biological processes, physical-chemical treatment technologies, anaerobic suspended and fixed-film biological systems, and hazardous waste treatment and disposal technologies.

As founder and president of J.M. Smith and Associates, PSC, Consulting Engineers (JMS), Mr. Smith has directed and actively participated in the conduct of over 300 projects in the municipal and industrial treatment fields ranging from design and construction management of advanced secondary treatment plants to design of hazardous waste control facilities.

Under Mr. Smith's personal direction, JMS was retained by USEPA to prepare Design Manuals on Odor and Corrosion Control, Phosphorus Removal, Sewer System Infrastructure Analysis and Rehabilitation, a Sulfide Report to Congress, Corrosion Handbook, Sequencing Batch Reactor for Nutrient Removal and Septage Handling and Treatment Guide.

Under the direction of Mr. Smith, JMS has pioneered the development and designed the first United States full-scale application of the following technologies:

- a) deep well chemical oxidation for treatment of sludge and high strength organic wastes
- b) multiple U-Tube aeration for force main sulfide control

- c) largest vapor phase odor control system in the United States
- d) the use of high resolution sonar for inspection of sewer lines and force mains

## **PUBLICATIONS OF JOHN M. SMITH**

### **Author**

Smith, J.M., Hartmann, G.L., "Texas Firm Introduces New Wastewater Treatment Technology," published in Hazardous Materials Technical Center Update, pg. 4, Vol. 6, No. 2, March, 1987.

Smith, J.M., "Deep Shaft Wet Air Oxidation," published in Standard Handbook for Hazardous Waste Treatment and Disposal, McGraw-Hill, 1986.

Smith, J.M., "Supercritical Deep Well Wet Oxidation of Liquid Organic Wastes," Proceedings of the International Symposium Subsurface Injection of Liquid Wastes, presented at Royal Sonesta Hotel, New Orleans, Louisiana, March 3-5, 1986; published by National Water Well Association.

Smith, J.M., "Supercritical Deep Well Oxidation: A Potential Low Cost Final Solution," presented at APCA conference in New Orleans, Louisiana, December 8-12, 1986.

Smith, J.M., "Energy Recovery and Conservation for Low Cost Systems," Presented at Workshop on Low-Cost Wastewater Treatment, Clemson University, April 19-21, 1983.

Smith, J.M., Lubin, G.R., "The Costs, Problems, and Benefits of Innovative and Alternative Technology," Presented at National Sanitation Foundation October 20, 1981, Ann Arbor, Michigan.

Smith, J.M., Evans, F.L. III, Bender, J.N., "Improved Operation and Maintenance Opportunities at Municipal Treatment Facilities," 7th Japan Conference on Sewage Treatment Technology, Tokyo, Japan, May 20, 1980.

Smith, J.M., McCarthy, J.J., Longest, H.L. II, "Impact of Innovative and Alternative Technology in the United States in the 1980's" 7th Japan Conference on Sewage Treatment Technology, Tokyo, Japan, May 20, 1980.

Smith, J.M., Evans, F.L. III, "Innovative Municipal Energy Alternatives," presented at the 50th annual meeting of the Rocky Mountain Section of AAWA and 44th annual meeting of the Rocky Mountain Water Pollution Control Association November 5-7, 1980.

Oppelt, E.T., Smith, J.M., "U.S. EPA Research and Current Thinking on Fluidized Bed Biological Treatment," December, 1979.

Oppelt, E.T., Smith, J.M., Feige, W.A., "Expanded Bed Biological Treatment," EPA 600/2-78-177, July, 1978.

Lykins, B.W., Jr., Smith, J.M., "Interim Report on the Impact of Public Law 92-500 on Municipal Pollution Control Technology," EPA 600/2-78-018, January, 1976.

Feige, W.A., Smith, J.M., "Wastewater Applications with a Tublar Reverse Osmosis Unit," published in WATER 1973 AIChE Symposium Series, Pgs. 523-533, #136, Vol 70, 1974.

Lewis, R.F., Smith, J.M., "Upgrading Existing Lagoons," USEPA Technology Transfer Design Seminar Program, October, 1973.

Smith, J.M., Masse, A.N., Feige, W.A. "Applications of New Concepts of Physical-Chemical Wastewater Treatment," presented at Vanderbilt University, Nashville, Tennessee, September 18-22, 1972.

Smith, J.M., "Nitrogen Removal from Municipal Wastewater by Columnar Denitrification," a thesis submitted to the Department of Civil Engineering, University of Cincinnati, Ohio, 1971.

Smith, J.M., et al, "Renovation of Municipal Wastewater by Reverse Osmosis." Federal Water Quality Administration Report ORD-17040, May, 1970.

#### **Author/Technical Editor**

USEPA Process Design Manual for Upgrading Existing Wastewater Treatment Plants - first and second editions.\*

USEPA Process Design Manual for Suspended Solids Removal -first and second editions.

USEPA Process Design Manual for Carbon Adsorption - first and second editions.

USEPA Process Design Manual for Sulfide Control in Sewerage Systems - first edition.

USEPA Areawide assessment Procedures Manual, Volumes I, II, and III.

USEPA Process Design Manual for Phosphorus Removal, September, 1987.

USEPA Design Manual for Infrastructure Analysis and Rehabilitation

USEPA Sulfide Report to Congress

USEPA Corrosion Handbook

USEPA Manual for Sequencing Batch Reactor's for Nutrient Removal

USEPA Septage Handling Field Guide

## **AUTHOR UNPUBLISHED REPORTS**

John M. Smith, Robert P.G. Bowker – Investigation of Ground Water Contamination at U.S. Refugee Camp

John M. Smith – Wastewater Treatment Plant Non-Compliance Investigation, and Energy Audit

John M. Smith – Design Review and New Design of 20 mgd AWT Plant

John M. Smith – Design Review and Process Design for a 7.5 mgd AWT Plant

John M. Smith – Capacity and Performance Evaluation of a 117 mgd Secondary Treatment Plant

John M. Smith – Feasibility Study and Analysis of Alternative Odor Control Methods for Wastewater Collection System

John M. Smith – Design Review and Re-Design of a 0.6 mgd AWT Plant

John M. Smith – Facility Plan and Design Review for a 22.5 mgd AWT Plant

John M. Smith – Robert P. G. Bowker – Design of New Generation Intra-Channel Clarifier

John M. Smith – Sewer Construction Inspection and Infiltration Analysis

John M. Smith – Project Engineer for Sewer System and Treatment Plant Inspection

John M. Smith – Design Review and Analysis of Municipal Treatment Systems

John M. Smith – Design Review and Engineering Evaluation of Non-Compliance of a 143 mgd AWT Plant